U.S. Appln. No. 09/731,994
Reply to Office Action dated March 23, 2006

PATENT
450100-02879

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Currently Amended) A data recording and reproducing apparatus comprising:

a plurality of ~~recording and reproducing means~~ RAID for recording and/or reproducing data containing video and/or audio data, each RAID having a plurality of HDD and a LAN interface; ~~on and/or from a nonlinearly-accessible recording medium;~~

~~a parity data recording and reproducing means for recording error-correcting code on a nonlinearly-accessible recording medium; and~~

an error-correcting RAID for recording and reproducing an error-correcting code, having a plurality of HDD and said LAN interface; and

a plurality of input and output processing means connected to said ~~recording and reproducing means~~ plurality of RAID and said error-correcting RAID through said LAN ~~through a predetermined transmission line~~ for processing said data inputted from the outside to output processed data to said RAID ~~recording and reproducing means~~ in a time-division manner and which process said data outputted from said ~~recording and reproducing means~~ RAID in a time-division manner to output processed data to the outside,

wherein said plurality of input and output processing means further includes:

input processing means for dividing said data inputted from the outside to transfer divided data to said ~~plurality of recording and reproducing means~~ RAID, for generating an error-

correcting code of said data, and for transferring said error-correcting code to said ~~parity data recording and reproducing means~~ error-correcting RAID; and

output processing means for correcting erroneous data by using said error-correcting code outputted from said ~~parity data recording and reproducing means~~ error-correcting RAID, and for outputting error-corrected data to the outside if an error is detected from said data outputted from said ~~recording and reproducing means~~ RAID,

wherein said error is detected based on status data, which includes a status of said data and ~~parity data~~ said error-correcting code, that is returned from said ~~recording and reproducing means~~ RAID to one of the plurality of input and output processing means, and is then added to an error table that includes information regarding an error in the recording and/or reproducing of said data and ~~parity data~~ error-correcting code.

2. (Currently Amended) A data recording and reproducing apparatus according to claim 1,

wherein said input and output processing means include recording data restoring means for restoring data or an error-correcting code, for requesting said data or said error correcting code from a second ~~recording and reproducing means~~ RAID, and outputting said restored data or said error-correcting code to said ~~recording and reproducing means~~ RAID after a trouble in which said data or said error-correcting code cannot be recorded on said ~~recording and reproducing means~~ RAID had been removed.

3. (Currently Amended) A data recording and reproducing apparatus according to claim 1, wherein said ~~transmission line~~ LAN interface is ethernet.

4. (Currently Amended) A data recording and reproducing apparatus according to claim 1, wherein said ~~transmission line~~ LAN interface is an IEEE 1394 transmission line.

5. (Currently Amended) A data recording and reproducing apparatus according to claim 1, wherein said ~~transmission line~~ LAN interface is a fibre channel.

6. (Currently Amended) A data recording and reproducing method comprising the steps of:

processing data containing video and/or audio data inputted from the outside to output processed data to a plurality of ~~recording and reproducing means~~ RAID in a time-division manner, each RAID having a plurality of HDD and a LAN interface;

~~recording said data on a nonlinearly accessible recording medium by a first one of said plurality of recording and reproducing means;~~

recording and reproducing ~~parity data~~ an error-correcting code on an error-correcting RAID; ~~on a nonlinearly accessible recording medium by a second of said plurality of recording and reproducing means;~~

~~wherein the second of said plurality of recording and reproducing means is a parity data recording and reproducing means;~~

~~reproducing said recorded data from said nonlinearly accessible recording medium;~~

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PATENT
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outputting said reproduced data from said ~~recording and reproducing means~~ RAIDs in a time-division manner; and

processing said outputted data and outputting said processed data to the outside comprising the steps of:

a first step of dividing and outputting said data inputted from the outside to said plurality of ~~recording and reproducing means~~ RAID from a plurality of input and and output processing means connected to said RAID by the network interface, generating an error-correcting code of said data and outputting said error-correcting code;

a second step of recording said divided data on said recording medium by a first of said plurality of ~~recording and reproducing means~~ RAID and recording said error-correcting code on said recording medium by said error-correcting RAID ~~a second of said plurality recording and reproducing means~~;

a third step of reproducing said data from said recording medium by the first of said plurality of ~~recording and reproducing means~~ RAID, reproducing said error-correcting code from said recording medium by said ~~second of said plurality of recording and reproducing means~~ error-correcting RAID and outputting said reproduced data and said reproduced error-correcting code in a time-division manner through the LAN interface ~~a predetermined transmission line~~; and

a fourth step of correcting erroneous data by using said error-correcting code outputted from said ~~second of said plurality recording and reproducing means~~ error correcting RAID and outputting said error-corrected data to the outside if an error is detected from said data outputted from said ~~second of said recording and reproducing means~~ error correcting RAID,

wherein said error is detected based on status data, which includes a status

of said data and ~~parity data~~ said error correcting code, that is returned from said ~~recording and~~

~~reproducing means~~ RAID to one of ~~the~~a plurality of the input and output processing means;

a fifth step of generating an error table that includes information regarding

an error in the recording and/or reproducing of said data and ~~parity data~~ said error correcting

code.

7. (Currently Amended) A data recording and reproducing method according to

claim 6, wherein said first step further includes a data restoring step of restoring said data or said

error-correcting code, for requesting said data or said error correcting code from a ~~second~~

~~recording and reproducing means~~ RAID, and outputting said restored data or said restored error-

correcting code to said ~~recording and reproducing means~~ RAID after a trouble in which said data

or said error-correcting code cannot be recorded on said ~~recording and reproducing means~~ RAID

had been removed.

8. (Currently Amended) A data recording and reproducing method according to

claim 6, wherein said ~~predetermined transmission~~ LAN interface line is ethernet.

9. (Currently Amended) A data recording and reproducing method according to

claim 6, wherein said ~~transmission line~~ LAN interface is an IEEE 1394 transmission line.

10. (Currently Amended) A data recording and reproducing method according to

claim 6, wherein said ~~transmission line~~ LAN interface is a fibre channel.

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